

What Works Clearinghouse



Elementary School Math

September 28, 2006

Scott Foresman–Addison Wesley Elementary Mathematics

Program description

Scott Foresman–Addison Wesley Elementary Mathematics is a core curriculum for students at all ability levels in kindergarten through grade 6. The program supports students' understanding of key math concepts and skills and covers a range of mathematical content across grades. The curriculum focuses on questioning strategies, problem-solving skills, embedded assessment, and exercises tailored to students of different

ability levels. It provides explicit problem-solving instruction, hands-on activities, and opportunities to extend students' mathematical understanding through reading and writing connections. According to its developer, *Scott Foresman–Addison Wesley Elementary Mathematics* is aligned to the National Council of Teachers of Mathematics Standards for the elementary grades.

Research

One study of *Scott Foresman–Addison Wesley Elementary Mathematics* met the What Works Clearinghouse (WWC) evidence standards. This study included more than 700 students

in second and fourth grades, in a mix of urban, suburban, and rural schools in Washington, Wyoming, Virginia, and Kentucky.¹

Effectiveness

Scott Foresman–Addison Wesley Elementary Mathematics was found to have no discernible effects on students' math achievement.

	Math achievement
Rating of effectiveness	No discernible effects
Improvement index ²	Average: –2 percentile points Range: –7 to +3 percentile points

1. The evidence presented in this report is based on the available research. Findings and conclusions may change as new research becomes available.

2. These numbers show the average and range of improvement indices for all findings across the study.

Additional program information

Developer and contact

Developed by Pearson Scott Foresman, a division of Pearson Education, Inc., One Lake Street, Upper Saddle River, NJ 07458. Web: www.scottforesman.com. Telephone: (201) 236-7000.

Scope of use

The edition of *Scott Foresman–Addison Wesley Elementary Mathematics* reviewed in this report was published in 2004. Information is not available on the number or demographics of students, schools, or districts using this curriculum.

Teaching

Scott Foresman–Addison Wesley Elementary Mathematics consists of teacher-led lessons that follow a check-learn-check-practice sequence, emphasizing key math concepts and skills. Teachers check students' skills prior to each lesson, introduce the lesson, and then check students' understanding during the lesson. "Practice" sections in the text permit students to further

demonstrate their understanding of concepts and apply this knowledge to solving real-life problems. Lessons (typically 45–60 minutes in length) are organized into chapters that extend over 2–8 weeks and use texts, workbooks, transparencies, manipulatives, and technology through group and individual activities.

Cost

The cost of *Scott Foresman–Addison Wesley Elementary Mathematics* varies based on the number of components included. For example, based on information from the developer, the costs in 2006 of some of the components used in the Resendez and Manley (2005) study for second grade are: student edition text (\$28.60), homework workbook (\$6.25), spiral review transparencies (\$103), Problem of the Day transparencies/flipbook (\$150), *Big Math Stories* (two volumes, \$118), manipulative kits (\$390), math game packs (\$36), math vocabulary kit (\$64.90), the Leveled Literature Library (\$35), and test taking practice transparencies (\$103).

Research

The WWC reviewed five studies of the *Scott Foresman–Addison Wesley Elementary Mathematics* program. One study (Resendez & Manley, 2005) was a randomized controlled trial that met WWC evidence standards. Thirty-five teachers in the second and fourth grades in six schools were randomly assigned to either the intervention condition (18 teachers) using *Scott Foresman–Addison Wesley Elementary Mathematics* or the comparison condition (17 teachers) using five distinct elementary math programs. The teachers in the intervention condition were in their first year of

implementing the *Scott Foresman–Addison Wesley Elementary Mathematics* program. The comparison programs included curricula that took either a chapter-based, comprehensive basal approach or a strand/module-based investigative approach. The study compared math achievement outcomes of 375 students (200 second graders and 175 fourth graders) in the intervention condition with those of 344 students (188 second graders and 156 fourth graders) in the comparison condition. The four other studies did not meet WWC evidence screens.

Effectiveness

Findings

The WWC review of elementary school mathematics curriculum-based interventions addresses student outcomes in mathematics achievement.

Mathematics achievement. Resendez and Manley (2005) reported no statistically significant effects of the *Scott Foresman–Addison Wesley Elementary Mathematics* program

on either the TerraNova Math Total Score or TerraNova Math Computation Score. The average effect across the two outcome measures was not large enough to be considered substantively important according to WWC criteria. Based on this study finding, the WWC rated the effect of *Scott Foresman–Addison Wesley Elementary Mathematics* on math achievement as indeterminate.

Effectiveness *(continued)*

Rating of effectiveness

The WWC rates interventions as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings (as calculated by the WWC³), the size of the difference

between participants in the intervention condition and the comparison condition, and the consistency in findings across studies (see the [WWC Intervention Rating Scheme](#)). The WWC found Scott Foresman-Addison Wesley Elementary Mathematics to have no discernible effects on mathematics achievement.

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Improvement index

For each outcome domain, the WWC computed an improvement index based on the effect size (see the [Technical Details of WWC-Conducted Computations](#)). The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect regardless of the statistical significance of the effect, the study design, or the analysis. The improvement

index can take on values between -50 and +50, with positive values denoting favorable results. The average improvement index for mathematics achievement is -2 percentile points, with a range of -7 to +3 percentile points across findings.

Summary

One study (Resendez & Manley, 2005) found indeterminate effects or, according to the WWC categorization scheme, “no discernible effects.” The evidence presented in this report is limited and may change as new research emerges.

References

Met WWC evidence standards

Resendez, M., & Manley, M. A. (2005). *Final report: A study on the effectiveness of the 2004 Scott Foresman-Addison Wesley Elementary Math program*. Jackson, WY: PRES Associates, Inc.

Additional sources:

Resendez, M., & Sridharan, S. (2005). *Technical report: A study on the effectiveness of the 2004 Scott Foresman-Addison Wesley Elementary Math program*. Jackson, WY: PRES Associates, Inc.

Did not meet evidence screens

Gatti, G. G. (2004). Scott Foresman-Addison Wesley Math national

effect size study. Available from Pearson Education, K-12 School Group, 1 Lake Street, Upper Saddle River, NJ 07458⁴

Klein, D. (2000). *High achievement in mathematics: Lessons from three Los Angeles elementary schools*. Washington, DC: Brookings Institution Press.⁵

Simpson, N. (2001). Scott Foresman California Mathematics validation study pretest-posttest results. (Report No. VM-17-3005-CA). Available from Pearson Scott Foresman, 1415 L Street, Suite 800, Sacramento, CA 95814⁶

WESTAT. (2003). *Analysis of field testing for Scott Foresman-Addison Wesley Mathematics 2004*. Rockville, MD: Author.⁵

For more information about specific studies and WWC calculations, please see the [WWC Scott Foresman-Addison Wesley Elementary Mathematics Technical Appendices](#).

3. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation see the [WWC Tutorial on Mismatch](#). See the [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate the statistical significance. In the case of *Scott Foresman-Addison Wesley Elementary Mathematics* no corrections were needed.

4. Does not use a strong causal design: the study, which used a quasi-experimental design, did not establish that the comparison group was equivalent to the treatment group at the baseline in a pretest measure of math achievement.

5. Does not use a strong causal design: this is a qualitative study.

6. Does not use a strong causal design: the study did not use a comparison group.